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| <p align="center">FLUORESCENT DETECTION PCR-BASED STR DNA PROTOCOL:POWERPLEX® 16 BIO SYSTEM - FORENSIC BIOLOGY SECTION PROCEDURE MANUAL, SECTION III</p> | <p align="center">Issue No.: 3</p> |
| | <p align="center">Effective Date: 6-March-2006</p> |
| <p>11 REPORT WRITING</p> <p>11.1 <u>REPORT REQUIREMENTS</u></p> <p>In accordance with the FBI's "Quality Assurance Standards for Forensic DNA Testing Laboratories", all Forensic Biology Certificates of Analysis will contain at a minimum the following information:</p> <p>11.1.1 Case identifier</p> <p>11.1.2 Description of evidence examined</p> <p>11.1.3 A description of the methodology</p> <p>11.1.4 Polymorphic loci examined</p> <p>11.1.5 Analytical results and/or conclusions</p> <p>11.1.6 Statistical frequencies of inclusion</p> <p>11.1.7 Date issued</p> <p>11.1.8 Disposition of evidence</p> <p>11.1.9 Casework examiner's signature and title</p> <p>11.2 <u>CATEGORIES OF RESULTS</u></p> <p>The results will fall within one of the following categories:</p> <p>11.2.1 Usable DNA profiles developed</p> <p>11.2.1.1 No DNA profiles foreign to individual A were developed.</p> <p>11.2.1.2 The DNA profiles developed for samples under comparison are consistent (match).</p> <p>11.2.1.3 The DNA profiles developed for samples under comparison are consistent with a mixture.</p> <p>11.2.1.4 The DNA profiles developed for samples under comparison are different (do not match) or are from non-subject cases.</p> <p>11.2.1.4.1 The DNA profiles for "unknown" samples (samples from non-subject cases or samples not attributable to any corresponding known samples) were searched in the Virginia DNA Data Bank.</p> <p>11.2.1.4.1.1 The DNA Data Bank search resulted in a match.</p> <p>11.2.1.4.1.2 The DNA Data Bank search resulted in no matches.</p> | |

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| <div> <p>11.2.1.4.1.2.1 The DNA profile for an unknown sample will be submitted to the National DNA Data Bank (if suitable).</p> </div> <div> <p>11.2.1.4.2 The DNA profile for an “unknown” sample was not suitable for searching in the Virginia DNA Data Bank and submission to the National DNA Data Bank; however, it may be suitable for direct comparison purposes.</p> </div> <div> <p>11.2.2 Partial DNA results developed (preferential amplification, drop-out, insufficient quantity, and/or sample degradation)</p> <p>11.2.2.1 Based on a review of the data such as type of sample, DNA yield and appearance of the product gel, a partial DNA profile may be considered a “usable” profile (refer to 11.2.1).</p> <p>11.2.2.2 No conclusive DNA profiles were developed (after cautious and conservative review, no comparison or interpretation can be offered).</p> <p>11.2.2.3 A partial DNA profile may not be suitable for searching in the DNA Data Bank; however, it may be suitable for direct comparison purposes.</p> <p>11.2.3 No DNA profiles were developed (insufficient quantity and/or sample degradation).</p> </div> <div> <p>11.3 <u>GENERAL REPORTING FORMAT</u></p> </div> <div> <p>The Certificate of Analysis will contain a METHODS section and RESULTS section, and may contain a CONCLUSIONS section. Depending on the case scenario and what questions the analyses are trying to answer as part of the investigation, a report may need to be written using several of the guidelines listed below.</p> </div> <div> <p>11.3.1 The METHODS section (as outlined below) will be placed prior to the RESULTS section in the Certificate of Analysis and will include the description of methodology, the PCR kit used, and polymorphic loci tested.</p> </div> <div> <p>METHODS:</p> </div> <div> <ul style="list-style-type: none"> • The method of deoxyribonucleic acid (DNA) analysis used was the Polymerase Chain Reaction (PCR). • The PCR amplification kit used was the PowerPlex® 16 BIO system. • The PowerPlex® 16 BIO system contains 16 genetic loci (FGA, TPOX, D8S1179, vWA, Penta E, D18S51, D21S11, TH01, D3S1358, Penta D, CSF1PO, D16S539, D7S820, D13S317, D5S818 and Amelogenin, a gender determining locus which is not used for statistical purposes). </div> <div> <p>11.3.2 The RESULTS section will contain the results of all analyses including comparisons, Data Bank searches, conclusions and statistics and will follow the METHODS section in the Certificate of Analysis.</p> </div> <div> <p>11.3.2.1 For known reference samples, the results of the DNA analysis will be reported in the following manner:</p> </div> | |

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| <p>“A DNA profile was developed from the blood sample (or buccal swabs) from VICTIM/SUSPECT/ELIMINATION SAMPLE.”</p> <p>11.3.2.1.1 When performing a comparison between a known sample and a previously analyzed evidence sample or visa versa the previously analyzed sample will be reported in the following manner:</p> <p>Example: Evidence or known samples from the same case</p> <p>A DNA profile was developed from the buccal swabs from VICTIM/SUSPECT/ELIMINATION (Item 3). VICTIM/SUSPECT/ELIMINATION cannot be eliminated as a contributor of the foreign DNA profile previously developed from the vaginal swabs (Item 2) and reported in the Certificate of Analysis dated December 12, 2004.</p> <p>Example: Evidence or known samples from a different cases used for comparison</p> <p>A DNA profile was developed from the buccal swabs from VICTIM/SUSPECT/ELIMINATION (Item 4, submitted under FS Lab # C04-xxxxx and the subject of the Certificate of Analysis dated_____ and addressed to NAME OF INVESTIGATOR, NAME OF AGENCY, and AGENCY CASE NUMBER). VICTIM/SUSPECT/ELIMINATION cannot be eliminated as a contributor of the foreign DNA profile developed from the vaginal swabs (Item 2).</p> <p>NOTE: If the evidence in the above example was previously analyzed and reported, then that Certificate of Analysis needs to be referenced in the statement above.</p> <p>11.3.2.2 When an alternate known sample (cigarette butt, can, bottle, shoes, etc.) is submitted in place of the traditional known sample (blood or buccal swabs) the results for this sample will be reported in the following manner:</p> <p>“A DNA profile was developed from the ALTERNATE KNOWN from VICTIM/SUSPECT.”</p> <p>When drawing a conclusion using an alternate known, this will be reported in the following manner:</p> <p>“If the DNA profile developed from the ALTERNATE KNOWN is from VICTIM/SUSPECT, then VICTIM/SUSPECT cannot be eliminated (or is eliminated) as a contributor of the DNA profile obtained from the EVIDENCE.”</p> | |

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| <p>NOTE: If a complete, single source profile is developed from the alternate known, no request will be made in the Certificate of Analysis for another, traditional known sample. If a partial, single source profile is developed from the alternate known, it may be necessary to request a traditional known sample from the victim/suspect. If a mixture profile is developed from the alternate known, the alternate known will not be considered as a known sample, but rather as an additional evidentiary item, and a traditional known sample will be requested in the Certificate of Analysis.</p> <p>11.3.2.3 When a suspect, victim or elimination known sample has not been submitted and/or no suspect has been identified, and a profile has been obtained in the case for which the source is unknown, a request will be made in the Certificate of Analysis for a known sample to be submitted using the following statement:</p> <p>“DNA comparisons can be conducted following the submission of two buccal (cheek) swabs from a suspect (or SUSPECT/VICTIM/ELIMINATION SAMPLE) to the Laboratory.”</p> <p>NOTE: In certain case scenarios, a profile with an unknown source may be developed; however, this profile is not probative to the case. It is not necessary to request a known sample for comparison in this situation.</p> <p>11.3.2.4 Clippings and swabbings of a sample (techniques used during the examination of an item to collect a DNA sample) are considered part of the examination process and will not be reported in the Certificate of Analysis.</p> <p>EXAMPLE: A swab is used to swab the mouth area of a bottle and DNA analysis is conducted on the swab. The report will be worded in the following manner: “A DNA profile was developed from the mouth area of the bottle.”</p> <p>11.3.2.5 Routinely, sperm and non-sperm fraction results will not be reported separately for samples that are differentially extracted. Instead, the probative results will be reported for the sample (i.e., vaginal/cervical sample rather than sperm fraction of the vaginal/cervical swabs).</p> <p>11.3.2.6 Inconclusive results and/or no results developed at a particular locus or loci (e.g., a partial profile) will not be addressed in the report.</p> <p>11.3.2.7 If an entire profile is deemed inconclusive, this will be reported in the following manner:</p> <p>“The results of the DNA analysis on the EVIDENCE were inconclusive.”</p> <p>11.3.2.8 When a DNA Data Bank search is conducted, the loci used for searching will not be reported.</p> <p>11.3.2.9 If no DNA amplification results are obtained for a sample, this will be reported in the following manner:</p> | |

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| <p align="center">“No DNA amplification results were obtained for the EVIDENCE.”</p> <p>11.3.2.9.1 There may be rare extenuating circumstances in which the detection of human DNA, in the absence of amplification results, is critical to the case and may supply investigative information. This will be reported in the following manner:</p> <p align="center">“Human DNA was isolated from the EVIDENCE, however, no DNA amplification results were obtained.”</p> <p>11.3.2.10 The term ‘profile’ will routinely be used when referring to typing results developed from an item. Typically, ‘profile’ describes typing results for which conclusions can be drawn and/or entered into the Data Bank for a meaningful search. However, it may also be used to describe typing results which have limited value, no value, and/or not suitable for a meaningful Data Bank search. The term ‘type’ or ‘types’ is described as components of a profile. These terms may be used instead of ‘profile’ when referring to typing results of limited value, no value and/or not suitable for a meaningful Data Bank search in a report. Examiner discretion will be used in deciding whether to use ‘profile’ or ‘type/types’ in the report.</p> <p>11.3.3 A CONCLUSIONS section may be included in the reports and will follow the RESULTS section. This section is reserved for reports containing multiple items tested and hence more results to be reported. It may be incorporated into the report to assist in streamlining results, thus creating a more reader friendly report. When incorporated, it will contain results of comparisons, Data Bank searches and conclusions. Refer to the below examples for when a CONCLUSIONS section might be incorporated into the report.</p> <p>EXAMPLE: A reconstruction case involving 2 victims and 2 suspects and 21 items was submitted for analysis. DNA profiles were developed from 17 of the 21 items; the results of comparison to the known samples may be summarized in a CONCLUSIONS section in the report. The RESULTS section would address whether DNA profiles were developed or not.</p> <p>EXAMPLE: A homicide case involving 1 victim, 5 suspects, and multiple submissions with numerous items for examination was submitted for analysis. Grouping of evidence results for reporting purposes is minimal due to the varying results obtained (full profiles, no foreign profiles, mixtures suitable for searching, limited foreign profiles, etc.). A CONCLUSIONS section may be used to report the results of the comparisons and Data Bank searches. The RESULTS section of this report would address whether DNA profiles were developed or not.</p> <p>11.4 <u>REPORTING FORMAT FOR SUBJECT CASES</u></p> <p>The results of the analysis for a subject case will be reported in the Certificate of Analysis in the following manner.</p> <p>11.4.1 <u>INTIMATE EVIDENCE SAMPLES</u> (i.e., Victim PERK or Suspect PERK)</p> | |

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| <p>NOTE: The following section is written as if the evidence is from the Victim. If the evidence is from the Suspect, substitute “SUSPECT” for “VICTIM” and “VICTIM” for “SUSPECT”, as appropriate.</p> <p>11.4.1.1 <u>SINGLE SOURCE FOREIGN DONOR</u></p> <p>11.4.1.1.1 <u>INCLUSION</u></p> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). SUSPECT cannot be eliminated as a contributor of this foreign DNA profile.”</p> <p>NOTE: A table listing the probative typing results will be included as an appendix to the Certificate of Analysis. The statement, “Refer to Appendix 1 for the PowerPlex 16 BIO typing results and Appendix 2 for the Abbreviations”, will be listed just prior to the disposition statement in the Certificate of Analysis.</p> <p>11.4.1.1.2 <u>EXCLUSION</u></p> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). SUSPECT is eliminated as a contributor of this foreign DNA profile.” <i>(Refer to the appropriate non-subject case subsection for reporting results of Data Bank searches, if appropriate.)</i></p> <p>11.4.1.2 <u>MULTIPLE FOREIGN DONORS</u></p> <p>11.4.1.2.1 <u>INCLUSION</u></p> <p>“A DNA profile foreign to VICTIM and consistent with a mixture was developed from the VICTIM EVIDENCE SAMPLE(S). SUSPECT1 and SUSPECT2 cannot be eliminated as contributors of this foreign DNA profile.”</p> <p>NOTE: A table listing the probative typing results will be included as an appendix to the Certificate of Analysis. The statement, “Refer to Appendix 1 for the PowerPlex 16 BIO typing results and Appendix 2 for the Abbreviations”, will be listed just prior to the disposition statement in the Certificate of Analysis.</p> <p>11.4.1.2.2 <u>EXCLUSION</u></p> <p>“A DNA profile foreign to VICTIM and consistent with a mixture was developed from the VICTIM EVIDENCE SAMPLE(S). SUSPECT is eliminated as a contributor of this foreign DNA profile.” <i>(Refer to the appropriate non-subject case subsection for reporting results of Data Bank searches, if appropriate.)</i></p> | |

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| <p>NOTE: If one of the donors to the foreign mixture profile is an elimination sample, the results can alternatively be reported as follows:</p> <p>“A DNA profile foreign to VICTIM and ELIMINATION SAMPLE was developed from the VICTIM EVIDENCE SAMPLE(S). SUSPECT cannot be eliminated (or is eliminated) as a contributor of this foreign DNA profile.”</p> <p>11.4.1.3 <u>NO FOREIGN PROFILES</u></p> <p>“No DNA profile foreign to VICTIM/ELIMINATION SAMPLE was developed from the VICTIM EVIDENCE SAMPLE(S).”</p> <p>11.4.1.4 <u>FOREIGN PROFILES OF LIMITED VALUE</u></p> <p>11.4.1.4.1 <u>NO CONCLUSIONS</u></p> <p>If a DNA profile foreign to the Victim is developed, and no conclusions relative to the Suspect can be made due to the limited information obtained, this will be reported in the following manner:</p> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). No conclusions can be made regarding SUSPECT as a contributor of this foreign DNA profile.”</p> <p>11.4.1.4.2. <u>EXCLUSION</u></p> <p>11.4.1.4.2.1 If a DNA profile foreign to the Victim is deemed suitable for comparison purposes, but not suitable for searching against the Data Bank, this will be reported in the following manner:</p> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). SUSPECT is eliminated as a contributor of this foreign DNA profile. This profile is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”</p> <p>NOTE: If the evidence is from the Suspect, omit the latter part of the statement above regarding searching of the Data Bank and submission to the National DNA Data Bank.</p> <p>11.4.1.4.2.2 If a DNA profile foreign to the Victim is deemed of limited value for comparison purposes and will only be used for elimination purposes, and the profile is not suitable for searching against the Data Bank, this will be reported in the following manner:</p> | |

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| <div> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). SUSPECT is eliminated as a contributor of this foreign DNA profile. This profile is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank. Due to the limited information obtained from this foreign DNA profile, it can only be used for elimination purposes.”</p> </div> <div> <p>NOTE: If the evidence is from the Suspect, omit the latter part of the statement above regarding searching of the Data Bank and submission to the National DNA Data Bank.</p> </div> <div> <p>11.4.1.5 <u>FOREIGN PROFILES OF NO VALUE</u></p> </div> <div> <p>When a DNA profile foreign to the Victim is developed from the Victim evidence, and this profile is determined to be of no value for comparison or Data Bank searching, report this in the following manner:</p> </div> <div> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). Due to the limited information obtained, this profile is not suitable for comparison, searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”</p> </div> <div> <p>NOTE: If the evidence is from the Suspect, omit the latter part of the statement above regarding searching of the Data Bank and submission to the National DNA Data Bank.</p> </div> <div> <p>NOTE: The VICTIM/SUSPECT EVIDENCE SAMPLE(S) listed above refers to the sample as a whole (i.e., vaginal swabs, pubic area swabs, etc.). No separate reporting of the sperm or non-sperm fraction should be made in the Certificate of Analysis.</p> </div> <div> <p>11.4.2 <u>NON-INTIMATE EVIDENCE SAMPLES</u> (i.e., typically items from the scene such as a knife, T-shirt, cigarette butts, etc.)</p> </div> <div> <p>11.4.2.1 <u>SINGLE SOURCE PROFILES</u></p> </div> <div> <p>11.4.2.1.1 <u>INCLUSION</u></p> </div> <div> <p>“A DNA profile was developed from the EVIDENCE. SUSPECT (or VICTIM) cannot be eliminated as a contributor of this DNA profile.”</p> </div> <div> <p>NOTE: A table listing the probative typing results will be included as an appendix to the Certificate of Analysis. The statement, “Refer to Appendix 1 for the PowerPlex 16 BIO typing results and Appendix 2 for the Abbreviations”, will be listed just prior to the disposition statement in the Certificate of Analysis.</p> </div> | |

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| <div> <p>11.4.2.1.2 <u>EXCLUSION</u></p> </div> <div> <p>“A DNA profile was developed from the EVIDENCE. SUSPECT (or VICTIM) is eliminated as a contributor of this DNA profile.” <i>(Refer to the appropriate non-subject case subsection for reporting results of Data Bank searches, if appropriate.)</i></p> </div> <div> <p>11.4.2.2 <u>MIXTURE PROFILES WITH DISCERNIBLE MAJOR/MINOR CONTRIBUTORS</u></p> </div> <div> <p>11.4.2.2.1 <u>INCLUSION</u></p> </div> <div> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. SUSPECT (or VICTIM) cannot be eliminated as a major (or minor) contributor to this DNA mixture profile.”</p> </div> <div> <p>NOTE: A table listing the probative typing results will be included as an appendix to the Certificate of Analysis. The statement, “Refer to Appendix 1 for the PowerPlex 16 BIO typing results and Appendix 2 for the Abbreviations”, will be listed just prior to the disposition statement in the Certificate of Analysis.</p> </div> <div> <p>11.4.2.2.2 <u>EXCLUSION</u></p> </div> <div> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. SUSPECT (or VICTIM) is eliminated as a contributor to this DNA mixture profile.” <i>(Refer to the appropriate non-subject case subsection for reporting results of Data Bank searches, if appropriate.)</i></p> </div> <div> <p>NOTE: Depending on the case scenario and the results, it may be necessary to report the exclusion relative to a major or minor contributor. However, if the individual is eliminated from the DNA mixture profile entirely, use the format listed above.</p> </div> <div> <p>11.4.2.3 <u>MIXTURE PROFILES WITH NO DISCERNIBLE MAJOR/MINOR CONTRIBUTORS</u></p> </div> <div> <p>11.4.2.3.1 <u>INCLUSION</u></p> </div> <div> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. SUSPECT (or VICTIM) cannot be eliminated as a contributor to this DNA mixture profile.”</p> </div> <div> <p>NOTE: A table listing the probative typing results will be included as an appendix to the Certificate of Analysis. The statement, “Refer to Appendix 1 for the PowerPlex 16 BIO typing results and Appendix 2 for the Abbreviations”, will be listed just prior to the disposition statement in the Certificate of Analysis.</p> </div> | |

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| <p align="center">11.4.2.3.2 <u>EXCLUSION</u></p> <p align="center">“A DNA profile consistent with a mixture was developed from the EVIDENCE. SUSPECT (or VICTIM) is eliminated as a contributor to this DNA mixture profile.” <i>(Refer to the appropriate non-subject case subsection for reporting results of Data Bank searches, if appropriate.)</i></p> <p align="center">11.4.2.4 <u>PROFILES OF LIMITED VALUE</u></p> <p align="center">11.4.2.4.1 <u>NO CONCLUSIONS</u></p> <p align="center">If a DNA profile is developed, and no conclusions relative to the Victim or Suspect can be made due to the limited information obtained, this will be reported in the following manner:</p> <p align="center">“A DNA profile was developed from the EVIDENCE. No conclusions can be made regarding SUSPECT (or VICTIM) as a contributor of this DNA profile.”</p> <p align="center">11.4.2.4.2 <u>EXCLUSION</u></p> <p align="center">11.4.2.4.2.1 If a DNA profile is deemed suitable for comparison purposes, but not suitable for searching against the Data Bank, this will be reported in the following manner:</p> <p align="center">“A DNA profile was developed from the EVIDENCE. SUSPECT (or VICTIM) is eliminated as a contributor of this DNA profile. This profile is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”</p> <p align="center">11.4.2.4.2.2 If a DNA profile is deemed of limited value for comparison and will only be used for elimination purposes, and the profile is not suitable for searching against the Data Bank, this will be reported in the following manner:</p> <p align="center">“A DNA profile was developed from the EVIDENCE. SUSPECT (or VICTIM) is eliminated as a contributor of this DNA profile. This profile is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank. Due to the limited information obtained from this DNA profile, it can only be used for elimination purposes. ”</p> | |

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| <p align="center">11.4.2.5 <u>PROFILES OF NO VALUE</u></p> <p>When a DNA profile is determined to be of no value for comparison or Data Bank searching, report this in the following manner:</p> <p>“A DNA profile was developed from the EVIDENCE. Due to the limited information obtained, this profile is not suitable for comparison, searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”</p> <p>11.4.3 <u>FORMATTING CONCLUSIONS</u></p> <p>Depending on the number of samples tested and the complexity of the results, samples with similar conclusions can be listed in bullet/list format. Alternatively, the conclusions may be reported in a chart format which includes the item number, item description and names of individuals tested in the header row, and the results (i.e., eliminated, not eliminated) within the appropriate chart cells. Refer to the examples below.</p> <p>11.4.3.1 <u>BULLET/LIST FORMAT</u></p> <p>VICTIM cannot be eliminated, and SUSPECT is eliminated, as a contributor of the DNA profile developed from the following samples:</p> <ul style="list-style-type: none"> • Stained swabs (Items 1, 2 and 4) • Stains A and C on T-shirt (Item 3) • Stains A, B and C on pants (Item 5) • Knife blade (Item 7) <p>SUSPECT cannot be eliminated, and VICTIM is eliminated, as a contributor of the DNA profile developed from the following samples:</p> <ul style="list-style-type: none"> • Stained swabs (Item 6) • Stain B on T-shirt (Item 3) • Knife handle (Item 7) | |

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11.4.3.2 CHART FORMAT

| ITEM | ITEM DESCRIPTION | VICTIM | SUSPECT |
|------|---------------------------|----------------|----------------|
| 1 | Stained swabs | Not Eliminated | Eliminated |
| 2 | Stained swabs | Not Eliminated | Eliminated |
| 3 | T-shirt – Stains A and C | Not Eliminated | Eliminated |
| 3 | T-shirt – Stain B | Eliminated | Not Eliminated |
| 4 | Stained swabs | Not Eliminated | Eliminated |
| 5 | Pants – Stains A, B and C | Not Eliminated | Eliminated |
| 6 | Stained swabs | Eliminated | Not Eliminated |
| 7 | Knife – Blade | Not Eliminated | Eliminated |
| 7 | Knife – Handle | Eliminated | Not Eliminated |

11.5 REPORTING FORMAT FOR NON-SUBJECT CASES

The results of the analysis of a non-subject case will be reported in the following manner:

11.5.1 INTIMATE EVIDENCE SAMPLES (i.e.,Victim PERK samples)**11.5.1.1 SINGLE SOURCE FOREIGN DONOR**

“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S).” *(Refer to the appropriate subsection under non-intimate evidence samples for reporting results of Data Bank searches.)*

11.5.1.2 MULTIPLE FOREIGN DONORS

“A DNA profile foreign to VICTIM and consistent with a mixture was developed from the VICTIM EVIDENCE SAMPLE(S).” *(Refer to the appropriate subsection under non-intimate evidence samples for reporting results of Data Bank searches.)*

11.5.1.3 NO FOREIGN PROFILES

“No DNA profile foreign to VICTIM/ELIMINATION SAMPLE was developed from the VICTIM EVIDENCE SAMPLE(S).”

11.5.1.4 FOREIGN PROFILES OF LIMITED VALUE

11.5.1.4.1 If a DNA profile foreign to the Victim is deemed suitable for comparison purposes, but not suitable for searching against the Data Bank, this will be reported in the following manner:

“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). This profile is suitable for comparison, but is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”

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| <p>11.5.1.4.2 If a DNA profile foreign to the Victim is deemed of limited value for comparison and will only be used for elimination purposes, and this profile is not suitable for searching against the Data Bank, this will be reported in the following manner:</p> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). This profile is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank. Due to the limited information obtained from this foreign DNA profile, it can only be used for elimination purposes.”</p> <p>11.5.1.5 <u>FOREIGN PROFILES OF NO VALUE</u></p> <p>When a DNA profile foreign to the Victim is developed from the Victim evidence, and this profile is determined to be of no value for comparison or Data Bank searching, report this in the following manner:</p> <p>“A DNA profile foreign to VICTIM was developed from the VICTIM EVIDENCE SAMPLE(S). Due to the limited information obtained, this profile is not suitable for comparison, searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”</p> <p>11.5.2 <u>NON-INTIMATE EVIDENCE SAMPLES</u> (i.e., typically items from the scene such as a knife, T-shirt, cigarette butts, etc.)</p> <p>11.5.2.1 <u>SINGLE SOURCE PROFILES</u></p> <p>11.5.2.1.1 <u>NO MATCH IN DATA BANK</u></p> <p>“A DNA profile was developed from the EVIDENCE. This profile was searched against the Virginia DNA Data Bank and no consistent profile was found. Future searches will be conducted on a periodic basis. This profile is indicative of a male (or female) contributor and will be submitted (or is not suitable for submission) to the National DNA Data Bank.”</p> <p>NOTE: If the Amelogenin results are inconclusive or no Amelogenin results are obtained, report this finding in the Certificate of Analysis as “No information was obtained regarding the gender of the contributor of this sample.”</p> | |

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11.5.2.1.2 MATCH OBTAINED IN DATA BANK TO AN INDIVIDUAL

“A DNA profile was developed from the EVIDENCE. This profile was searched against the Virginia DNA Data Bank and found to be consistent with:

Name:
SSN:
DOC #, DCN #, and/or SID # (Provide all that are available):
Date of Birth:
Race:
Gender:

This information is provided only as an investigative lead, and any possible connection or involvement of this individual to the case must be determined through further investigation.

In order to complete the direct DNA comparison, two buccal (cheek) swabs from INDIVIDUAL must be submitted to the Laboratory.”

NOTES: If the match was the result of a subsequent search and a new report will be written, substitute the following sentence for the beginning statements above: “A subsequent search of the DNA profile previously developed from EVIDENCE against the Virginia DNA Data Bank found it to be consistent with:”

If the match was obtained at NDIS, substitute “National DNA Data Bank” for “Virginia DNA Data Bank” listed above. Refer to the Commonwealth of Virginia Division of Forensic Science CODIS Operating Policies and Procedures Manual for further instructions.

If a match is made to specimens in multiple indexes, the information associated with each specimen will be reported in the Certificate of Analysis (i.e. match made to the convicted offender index and to the forensic index). A Memorandum of Record will be generated by the examiner who made the hit (target profile) and forwarded to the examiner whose case the hit was made against (candidate profile) for placement in the case file. The memorandum of record should state that a hit was obtained between the specimen id # _____ to specimen id # _____. In addition, both examiners will print out a copy of the Match Details Report and include this with the memorandum of record in each case file.

If a match to an individual occurs after previous matches have been made to other unsolved cases, a separate report will be issued for each linked case and contain the information of the individual.

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| <p align="center">11.5.2.1.3 <u>MATCH OBTAINED IN DATA BANK TO ANOTHER CASE</u> (Solved or Unsolved)</p> <p>“A DNA profile was developed from the EVIDENCE. This profile was searched against the Virginia DNA Data Bank and found to be consistent with the DNA profile developed from the EVIDENCE submitted under FS LAB # and the subject of the Certificate of Analysis dated _____ and addressed to NAME OF INVESTIGATOR, NAME OF AGENCY, AGENCY CASE NUMBER. These results indicate that the DNA profile developed from both of these samples could have been deposited by the same individual.</p> <p>The DNA profile developed from the EVIDENCE FROM THE CASE WHICH IS BEING REPORTED is indicative of a male (or female) contributor and will be submitted (or is not suitable for submission) to the National DNA Data Bank.”</p> <p>NOTES: The examiner assigned to the target profile case will issue a report and send a copy of that report to the investigator of the candidate profile case regardless of whether that case is solved or unsolved. No report is issued by the examiner of the candidate profile case.</p> <p>If the match was obtained at NDIS, substitute “National DNA Data Bank” for “Virginia DNA Data Bank” listed above. Generally, reports will be issued for all case to case matches made at NDIS. If cases have been previously linked as a result of matches made in the Virginia DNA Data Bank and a subsequent case to case match is made to these linked cases at NDIS, a report can be issued on one of the linked Virginia cases with a copy sent to the investigator of the other linked cases. Refer to the <u>Commonwealth of Virginia Division of Forensic Science CODIS Operating Policies and Procedures Manual</u> for further instructions.</p> <p>If a match is made to specimens in multiple indexes, the information associated with each specimen will be reported in the Certificate of Analysis (i.e. match made to the convicted offender index and to the forensic index).</p> <p>A Memorandum of Record will be generated by the examiner who made the hit (target profile) and forwarded to the examiner whose case the hit was made against (candidate profile) for placement in the case file. The memorandum of record should state that a hit was obtained between the specimen id # _____ to specimen id # _____. In addition, both examiners will print out a copy of the Match Details Report and include this with the memorandum of record in each case file.</p> | |

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| <div> <p>11.5.2.2 <u>MIXTURE PROFILES WITH DISCERNIBLE MAJOR/MINOR CONTRIBUTORS</u></p> </div> <div> <p>11.5.2.2.1 <u>NO MATCH IN DATA BANK</u></p> </div> <div> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. The major contributor (or minor contributor) to this mixture profile was searched against the Virginia DNA Data Bank and no consistent profile was found. Future searches will be conducted on a periodic basis. This profile will be submitted (or is not suitable for submission) to the National DNA Data Bank.”</p> </div> <div> <p>NOTE: Depending on the mixture profile obtained and the case scenario, the gender of the major/minor contributor may be able to be determined. If so, gender will be reported similar to the statement under SINGLE SOURCE PROFILES, NO MATCH IN DATA BANK.</p> </div> <div> <p>11.5.2.2.2 <u>MATCH OBTAINED IN DATA BANK TO AN INDIVIDUAL</u></p> </div> <div> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. The major contributor (or minor contributor) to this mixture profile was searched against the Virginia DNA Data Bank and found to be consistent with:</p> </div> <div> <p>Name: SSN: DOC #, DCN #, and/or SID # (Provide all that are available): Date of Birth: Race: Gender:</p> </div> <div> <p>This information is provided only as an investigative lead, and any possible connection or involvement of this individual to the case must be determined through further investigation.</p> </div> <div> <p>In order to complete the direct DNA comparison, two buccal (cheek) swabs from INDIVIDUAL must be submitted to the Laboratory.”</p> </div> <div> <p>NOTES: If the match was the result of a subsequent search and a new report will be written, substitute the following sentence for the beginning statements above: “A subsequent search of the DNA profile previously developed from EVIDENCE against the Virginia DNA Data Bank, found it to be consistent with:”</p> </div> <div> <p>If the match was obtained at NDIS, substitute “National DNA Data Bank” for “Virginia DNA Data Bank” listed above. Refer to the <u>Commonwealth of Virginia Division of Forensic Science</u></p> </div> | |

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| <p><u>CODIS Operating Policies and Procedures Manual</u> for further instructions.</p> <p>If a match is made to specimens in multiple indexes, the information associated with each specimen will be reported in the Certificate of Analysis (i.e. match made to the convicted offender index and to the forensic index). A Memorandum of Record will be generated by the examiner who made the hit (target profile) and forwarded to the examiner whose case the hit was made against (candidate profile) for placement in the case file. The memorandum of record should state that a hit was obtained between the specimen id # _____ to specimen id # _____. In addition, both examiners will print out a copy of the Match Details Report and include this with the memorandum of record in each case file.</p> <p>If a match to an individual occurs after previous matches have been made to other unsolved cases, a separate report will be issued for each linked case and contain the information of the individual.</p> <p>11.5.2.2.3 <u>MATCH OBTAINED IN DATA BANK TO ANOTHER CASE (Solved or Unsolved)</u></p> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. The major contributor (or minor contributor) to this mixture profile was searched against the Virginia DNA Data Bank and found to be consistent with the DNA profile developed from the EVIDENCE submitted under FS LAB # and the subject of the Certificate of Analysis dated ____ addressed to NAME OF INVESTIGATOR, NAME OF AGENCY, AGENCY CASE NUMBER. These results indicate that the DNA profile developed from both of these samples could have been deposited by the same individual.</p> <p>The DNA profile developed from the EVIDENCE FROM THE CASE WHICH IS BEING REPORTED will be submitted (or is not suitable for submission) to the National DNA Data.”</p> <p>NOTES: Depending on the results and case scenario, the gender of the major/minor contributor may be able to be determined. If so, the gender will be reported similar to the statement under SINGLE SOURCE PROFILES, NO MATCH IN DATA BANK.</p> <p>The examiner assigned to the target profile case will issue a report and send a copy of that report to the investigator of the candidate profile case regardless of whether that case is solved or unsolved. No report is issued by the examiner of the candidate profile case.</p> | |

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| <div> <p>If the match was obtained at NDIS, substitute “National DNA Data Bank” for “Virginia DNA Data Bank” listed above. Generally, reports will be issued for all case to case matches made at NDIS. If cases have been previously linked as a result of matches made in the Virginia DNA Data Bank and a subsequent case to case match is made to these linked cases at NDIS, a report can be issued on one of the linked Virginia cases with a copy sent to the investigator of the other linked cases. Refer to the <u>Commonwealth of Virginia Division of Forensic Science CODIS Operating Policies and Procedures Manual</u> for further instructions.</p> </div> <div> <p>If a match is made to specimens in multiple indexes, the information associated with each specimen will be reported in the Certificate of Analysis (i.e. match made to the convicted offender index and to the forensic index).</p> </div> <div> <p>A Memorandum of Record will be generated by the examiner who made the hit (target profile) and forwarded to the examiner whose case the hit was made against (candidate profile) for placement in the case file. The memorandum of record should state that a hit was obtained between the specimen id # _____ to specimen id # _____. In addition, both examiners will print out a copy of the Match Details Report and include this with the memorandum of record in each case file.</p> </div> <div> <p>11.5.2.3 <u>MIXTURE PROFILES WITH NO DISCERNIBLE MAJOR/MINOR CONTRIBUTOR</u></p> </div> <div> <p>11.5.2.3.1 <u>NO MATCH IN DATA BANK</u></p> </div> <div> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. This mixture profile was searched against the Virginia DNA Data Bank and no contributors were found. This mixture profile will be submitted (or is not suitable for submission) to the National DNA Data Bank.”</p> </div> <div> <p>NOTE: No information regarding gender will be reported for mixture profiles when no discernible major/minor contributor is obtained.</p> </div> | |

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11.5.2.3.2 MATCH OBTAINED IN DATA BANK TO AN INDIVIDUAL

“A DNA profile consistent with a mixture was developed from the EVIDENCE. This mixture profile was searched against the Virginia DNA Data Bank. As a result of this search, the following individual cannot be eliminated as a contributor to this mixture profile:

Name:
SSN:
DOC #, DCN #, and/or SID # (Provide all that are available):
Date of Birth:
Race:
Gender:

This information is provided only as an investigative lead, and any possible connection or involvement of this individual to the case must be determined through further investigation.

In order to complete the direct DNA comparison, two buccal (cheek) swabs from INDIVIDUAL must be submitted to the Laboratory.”

NOTES: If the match was the result of a subsequent search and a new report will be written, substitute the following sentences for the beginning statements above: “A subsequent search of the DNA mixture profile previously developed from EVIDENCE against the Virginia DNA Data Bank was conducted. As a result of this search, the following individual cannot be eliminated as a contributor to this mixture profile:”

If the match was obtained at NDIS, substitute “National DNA Data Bank” for “Virginia DNA Data Bank” listed above and refer to the Commonwealth of Virginia Division of Forensic Science CODIS Operating Policies and Procedures Manual for further instructions.

If a match is made to specimens in multiple indexes, the information associated with each specimen will be reported in the Certificate of Analysis (i.e. match made to the convicted offender index and to the forensic index). A Memorandum of Record will be generated by the examiner who made the hit (target profile) and forwarded to the examiner whose case the hit was made against (candidate profile) for placement in the case file. The memorandum of record should state that a hit was obtained between the specimen id # _____ to specimen id # _____. In addition, both examiners will print out a copy of the Match Details Report and include this with the memorandum of record in each case file.

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| <p>If a match to an individual occurs after previous matches have been made to other unsolved cases, a separate report will be issued for each linked case and contain the information of the individual.</p> <p>11.5.2.3.3 <u>MATCH OBTAINED IN DATA BANK TO ANOTHER CASE (Solved or Unsolved)</u></p> <p>“A DNA profile consistent with a mixture was developed from the EVIDENCE. This mixture profile was searched against the Virginia DNA Data Bank. As a result of this search, the contributor of the DNA profile developed from the EVIDENCE submitted under FS LAB # and the subject of the Certificate of Analysis dated _____ addressed to NAME OF INVESTIGATOR, NAME OF AGENCY, AGENCY CASE NUMBER cannot be eliminated as a contributor to this mixture profile.</p> <p>The DNA mixture profile developed from the EVIDENCE FROM THE CASE WHICH IS BEING REPORTED will be submitted (or is not suitable for submission) to the National DNA Data Bank.”</p> <p>NOTES: No information regarding gender will be reported for mixture profiles when no discernible major/minor profile is obtained.</p> <p>If the target mixture profile hits on a candidate mixture profile, the above statement will be modified to reflect the appropriate situation (i.e., “This mixture profile was searched against the Virginia DNA Data Bank. As a result of this search, a contributor (or the major contributor/the minor contributor) to the DNA mixture profile developed from the EVIDENCE submitted under FS LAB # and the subject of the Certificate of Analysis dated _____ addressed to NAME OF INVESTIGATOR, NAME OF AGENCY, AGENCY CASE NUMBER cannot be eliminated as a contributor to this mixture profile.”)</p> <p>The examiner assigned to the target profile case will issue a report and send a copy of that report to the investigator of the candidate profile case regardless of whether that case is solved or unsolved. No report is issued by the examiner of the candidate profile case.</p> <p>If the match was obtained at NDIS, substitute “National DNA Data Bank” for “Virginia DNA Data Bank” listed above. Generally, reports will be issued for all case to case matches made at NDIS. If cases have been previously linked as a result of matches made in the Virginia DNA Data Bank and a subsequent case to case match is made to these linked cases at NDIS, a report can be issued on one of the linked Virginia cases with a copy sent to the investigator of the other linked cases.</p> | |

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| <p>Refer to the <u>Commonwealth of Virginia Division of Forensic Science CODIS Operating Policies and Procedures Manual</u> for further instructions.</p> <p>If a match is made to specimens in multiple indexes, the information associated with each specimen will be reported in the Certificate of Analysis (i.e. match made to the convicted offender index and to the forensic index).</p> <p>A Memorandum of Record will be generated by the examiner who made the hit (target profile) and forwarded to the examiner whose case the hit was made against (candidate profile) for placement in the case file. The memorandum of record should state that a hit was obtained between the specimen id # _____ to specimen id # _____. In addition, both examiners will print out a copy of the Match Details Report and include this with the memorandum of record in each case file.</p> <p>11.5.2.4 <u>PROFILES OF LIMITED VALUE (Single Source or Mixture Profiles)</u></p> <p>11.5.2.4.1 If a profile is deemed suitable for comparison purposes, but not suitable for searching against the Data Bank, this will be reported in the following manner:</p> <p>“A DNA profile (consistent with a mixture) was developed from the EVIDENCE. This (mixture) profile is suitable for comparison, but is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”</p> <p>11.5.2.4.2 If a profile is deemed of limited value for comparison and will only be used for elimination purposes and this profile is not suitable for searching against the Data Bank, this will be reported in the following manner:</p> <p>“A DNA profile (consistent with a mixture) was developed from the EVIDENCE. This (mixture) profile is not suitable for searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank. Due to the limited information obtained, this (mixture) profile can only be used for elimination purposes.”</p> <p>11.5.2.5 <u>PROFILES OF NO VALUE</u></p> <p>If a profile is deemed of no value for comparison purposes or Data Bank searching, this will be reported in the following manner:</p> <p>“A DNA profile was developed from the EVIDENCE. Due to the limited information obtained, this profile is not suitable for comparison, searching against the Virginia DNA Data Bank or submission to the National DNA Data Bank.”</p> | |

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| <p>11.5.3 <u>MULTIPLE SAMPLES TESTED WITHIN A CASE</u></p> <p>When multiple samples from a non-subject case are analyzed (i.e., 4 cigarette butts, 2 bottles and 1 can), the report should address how many different profiles were obtained from these items and what the Data Bank searching results were.</p> <p>“DNA profiles were developed from the EVIDENCE SAMPLES. Of these TOTAL NUMBER DNA profiles, NUMBER OF DIFFERENT PROFILES different profiles, indicative of NUMBER OF CONTRIBUTORS were developed.” <i>(Refer to the appropriate subsection under non-intimate evidence samples for reporting results of Data Bank searches.)</i></p> <p>EXAMPLE: All items submitted were recovered from a trash can outside of a convenience store which was burglarized.</p> <p>“DNA profiles were developed from the four cigarette butts, and the mouth openings of the two bottles and one can. Of these seven DNA profiles, four different profiles, indicative of four different contributors, were developed. Three of these profiles were searched against the Virginia DNA Data Bank and no consistent profiles were found. These profiles are each indicative of a male contributor and will be submitted to the National DNA Data Bank.</p> <p>The fourth DNA profile (Item 7) was searched against the Virginia DNA Data Bank and found to be consistent with:</p> <p align="right">Name: SSN: Etc.”</p> <p>NOTES: Intercomparisons of multiple samples within a non-subject case or intercomparisons of samples from two or more non-subject cases should be conducted with only single source profiles or discernible major contributors to mixture profiles.</p> <p>Judgment should be used when grouping items from multiple locations within the report. It may be important to note that all profiles in one location are the same versus different profiles obtained from other locations.</p> <p>11.6 <u>REPORTING FORMAT FOR RECONSTRUCTION CASES</u></p> <p>When DNA results are used to assist in crime scene reconstruction, the identity of the individuals involved is typically not in question; however, the question is which donors deposited each sample. Therefore, it is generally not necessary to report each donor who is eliminated from a sample, but rather which donor cannot be eliminated as the contributor of the various samples tested throughout the crime scene. Results for reconstruction cases will be reported in the following manner:</p> | |

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11.6.1 SINGLE SOURCE PROFILES

“DNA profiles were developed from the EVIDENCE. VICTIM1 cannot be eliminated as a contributor of the DNA profiles obtained from EVIDENCE. VICTIM2 cannot be eliminated as a contributor of the DNA profiles obtained from EVIDENCE.”

11.6.2 MIXTURE PROFILES

“A DNA profile consistent with a mixture was developed from the EVIDENCE. VICTIM1 and VICTIM2 cannot be eliminated as contributors to the DNA mixture profile obtained from EVIDENCE.”

NOTE: No mention of major/minor contributors should be made for mixture profiles obtained in reconstruction cases.

11.6.3 Depending on the complexity of the results and the number of items tested, the final conclusions for a reconstruction case may alternatively be reported in a chart format which includes the item number, item description and contributor.

11.6.3.1 CHART FORMAT

“DNA profiles were developed from the EVIDENCE. DNA profiles consistent with mixtures were developed from the EVIDENCE. Refer to the chart below for a summary of the conclusions.

| ITEM | ITEM DESCRIPTION | CONTRIBUTOR |
|------|---------------------------------|----------------------------|
| 1 | Swab from front stoop | John Doe |
| 2 | Swab from front door knob | Mary Jane Doe |
| 5 | Swab from sidewalk | John Doe and Mary Jane Doe |
| 7 | Swab from bathroom sink | John Doe and Mary Jane Doe |
| 10 | Swab from bathroom light switch | John Doe* |

* DNA types different from John Doe were developed from this sample. No conclusions can be made regarding Mary Jane Doe as a contributor to these DNA types.”

NOTES: It may be important in some cases to indicate that no foreign/different profiles to the individuals involved were developed. If so, use the following wording: “No DNA profiles foreign to VICTIM(S) were developed from EVIDENCE” or “No DNA profiles different than VICTIM(S) were developed from EVIDENCE”.

If a DNA profile foreign/different to the individuals involved is developed, refer to the appropriate subsection under REPORTING FORMAT FOR SUBJECT CASES.

11.7 REPORTING FORMAT FOR PATERNITY AND MISSING PERSON CASES

When a comparison is made to a biological relative of an individual, rather than the individual themselves, the results will be reported in the following manner:

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| <p>11.7.1 <u>PATERNITY CASES</u></p> <p>“A DNA profile was developed from the CHILD’S KNOWN SAMPLE/EVIDENCE SAMPLE and the blood (or buccal) sample from the MOTHER and ALLEGED FATHER. The ALLEGED FATHER cannot be eliminated (or is eliminated) as the biological parent (or father) of the CHILD/EVIDENCE SAMPLE.”</p> <p>NOTE: A table listing the probative typing results will be included as an appendix to the Certificate of Analysis. The statement, “Refer to Appendix 1 for the PowerPlex 16 BIO typing results and Appendix 2 for the Abbreviations”, will be listed just prior to the disposition statement in the Certificate of Analysis.</p> <p>If statistics are appropriate and will be issued in a separate report by another examiner, include the following statement:</p> <p>“Paternity calculations regarding the above analysis will be the subject of a separate report.”</p> <p>NOTES: If the mother is the alleged parent, the wording will be changed to reflect the appropriate conclusion.</p> <p align="center">If the mother and father are both alleged, the wording will be changed to reflect the appropriate conclusions.</p> <p>11.7.2 <u>MISSING PERSON CASES</u></p> <p>“A DNA profile was developed from the EVIDENCE and from the blood (or buccal) samples from RELATIVE. RELATIVE cannot be eliminated as a biological parent/offspring of the contributor of the DNA profile obtained from EVIDENCE.”</p> <p>NOTE: A table listing the probative typing results will be included as an appendix to the Certificate of Analysis. The statement, “Refer to Appendix 1 for the PowerPlex 16 BIO typing results and Appendix 2 for the Abbreviations”, will be listed just prior to the disposition statement in the Certificate of Analysis.</p> <p>If statistics are probative to the case and will be issued in a separate report by another examiner, include the following statement:</p> <p>“Missing person calculations regarding the above analysis will be the subject of a separate report.”</p> <p>11.8 <u>REPORTING FORMAT FOR STATISTICAL CALCULATIONS</u></p> <p>Statistical calculations will be conducted and reported for the most probative profile(s). The types of statistical calculations reported by DFS include random match probability, likelihood ratio, combined probability of exclusion/inclusion, paternity index and probability of paternity, and missing person. Routinely, statistical calculations will be reported for the Caucasian, Black and Hispanic populations in accordance with <u>The Evaluation of Forensic DNA Evidence</u>, National Academy Press, Washington D.C., 1996 (i.e., National Research Council II).</p> | |

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| <p>11.8.1 <u>RANDOM MATCH PROBABILITY</u></p> <p>The loci that are used for calculating the random match probability need to be listed in the report. This can be done by listing the loci individually, stating “the PowerPlex® 16 BIO loci” or stating “the PowerPlex® 16 BIO loci with the exception of LOCUS/LOCI”. A random match probability will be reported in the following manner:</p> <p>11.8.1.1 When all population groups exceed 6.5 billion (approximate world population):</p> <p>“The probability of randomly selecting an unrelated individual with a DNA profile matching that developed from the EVIDENCE at the LOCI USED FOR CALCULATION loci is 1 in greater than 6.5 billion (which is approximately the world population) in the Caucasian, Black and Hispanic populations.”</p> <p>11.8.1.2 When only one or two population groups exceed 6.5 billion (approximate world population):</p> <p>“The probability of randomly selecting an unrelated individual with a DNA profile matching that developed from the EVIDENCE at the LOCI USED FOR CALCULATION loci is approximately 1 in _____ in the Black population, 1 in _____ in the Hispanic population, and 1 in greater than 6.5 billion (which is approximately the world population) in the Caucasian population.”</p> <p>11.8.1.3 When none of the population groups exceed 6.5 billion (approximate world population):</p> <p>“The probability of randomly selecting an unrelated individual with a DNA profile matching that developed from the EVIDENCE at the LOCI USED FOR CALCULATION loci is approximately 1 in _____ in the Caucasian population, 1 in _____ in the Black population, and 1 in _____ in the Hispanic population.”</p> <p>11.8.1.4 If it is suspected that a relative of the suspect may have left the DNA profile at the crime scene, the following wording will be used:</p> <p>“The probability of the RELATIVE having a DNA profile consistent with that of SUSPECT is approximately 1 in _____ in the Caucasian population, 1 in _____ in the Black population, and 1 in _____ in the Hispanic population.”</p> <p>NOTE: Based upon the question that is being asked above, the frequency provided will not be limited to 1 in greater than 6.5 billion (which is approximately the world population), but instead will be reported as the actual truncated probability that is obtained using the formulas in Section 10, STATISTICAL CALCULATIONS. The reported value for the random match probability will be truncated to 2 significant figures.</p> | |

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| <p>11.8.2 <u>LIKELIHOOD RATIO</u></p> <p>The loci that are used for calculating the likelihood ratio need to be listed in the report. This can be done by listing the loci individually, stating “the PowerPlex® 16 BIO loci” or stating “the PowerPlex® 16 BIO loci with the exception of LOCUS/LOCI”. A likelihood ratio will be reported in the following manner:</p> <p>“The DNA profile developed from the EVIDENCE at the LOCI USED FOR CALCULATION loci is:</p> <p>_____ times more likely to be observed if it originated from the SUSPECT and VICTIM than if it originated from the VICTIM and an unknown individual in the Caucasian population.</p> <p>_____ times more likely to be observed if it originated from the SUSPECT and VICTIM than if it originated from the VICTIM and an unknown individual in the Black population.</p> <p>_____ times more likely to be observed if it originated from the SUSPECT and VICTIM than if it originated from the VICTIM and an unknown individual in the Hispanic population.”</p> <p>NOTES: Depending on the assumptions made during the likelihood ratio calculation, there may be other individuals (i.e., ELIMINATION SAMPLE, UNKNOWN INDIVIDUAL) that need to be included in the likelihood ratio statement.</p> <p>The reported value for the likelihood ratio probability will be truncated to 2 significant figures.</p> <p>11.8.3 <u>COMBINED PROBABILITY OF EXCLUSION/INCLUSION (CPE/CPI)</u></p> <p>The loci that are used for calculating the CPE/CPI need to be listed in the report. This can be done by listing the loci individually, stating “the PowerPlex® 16 BIO loci” or stating “the PowerPlex® 16 BIO loci with the exception of LOCUS/LOCI”. The combined probability of exclusion/combined probability of inclusion will be reported in the following manner:</p> <p>11.8.1.1 When all population groups exceed 6.5 billion (approximate world population):</p> <p>“The probability of randomly selecting an unrelated individual who would be included as a contributor to the DNA mixture profile developed from the EVIDENCE at the LOCI USED FOR CALCULATION loci is 1 in greater than 6.5 billion (which is approximately the world population) in the Caucasian, Black and Hispanic populations.”</p> <p>11.8.3.2 When only one or two population groups exceed 6.5 billion (approximate world population):</p> <p>“The probability of randomly selecting an unrelated individual who would be included as a contributor to the DNA mixture profile developed from the EVIDENCE at the LOCI USED FOR CALCULATION loci is approximately 1 in _____ in the Black population, 1 in _____ in the Hispanic population, and 1 in _____ in the _____ population.”</p> | |

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greater than 6.5 billion (which is approximately the world population) in the Caucasian population.”

11.8.3.3 When none of the population groups exceed 6.5 billion (approximate world population):

“The probability of randomly selecting an unrelated individual who would be included as a contributor to the DNA mixture profile developed from the EVIDENCE at the LOCI USED IN THE CALCULATION loci is approximately 1 in _____ in the Caucasian population, 1 in _____ in the Black population, and 1 in _____ in the Hispanic population.”

NOTE: The reported value for the combined probability of inclusion will be truncated to 2 significant figures.

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11.8.4 **PATERNITY INDEX AND PROBABILITY OF PATERNITY**

The loci that are used for calculating the paternity index and probability of paternity need to be listed in the report. This can be done by listing the loci individually, stating “the PowerPlex® 16 BIO loci” or stating “the PowerPlex® 16 BIO loci with the exception of LOCUS/LOCI”. Paternity Index and Probability of Paternity will be reported in the following manner:

“Based on a review of the typing results for the CHILD/EVIDENCE and the VICTIM and ALLEGED FATHER previously analyzed at the PowerPlex® 16 BIO loci and addressed in the Certificate of Analysis dated _____, the following Combined Paternity Index (CPI) and Probability of Paternity, using a prior probability of 0.5, were calculated for the following populations at the LOCI USED IN THE CALCULATION:

| | | |
|-----------|-------------|-----------------------------------|
| Caucasian | CPI = _____ | Probability of Paternity = _____% |
| Black | CPI = _____ | Probability of Paternity = _____% |
| Hispanic | CPI = _____ | Probability of Paternity = _____% |

The Combined Paternity Index is a likelihood ratio that expresses the odds that the ALLEGED FATHER is the biological parent (father) of the CHILD/EVIDENCE SAMPLE (S) rather than another unrelated random man. Therefore, the odds are _____ times more likely in the Caucasian population, _____ times more likely in the Black population, and _____ times more likely in the Hispanic population that these alleles would be observed if ALLEGED FATHER is the biological parent (father) of the CHILD/EVIDENCE SAMPLE (S) rather than another unrelated random man.”

NOTES: If one report is issued containing the PowerPlex® 16 BIO typing results and the paternity index and probability of paternity statistics, the first sentence above will be replaced with the following: “The following Combined Paternity Index (CPI) and Probability of Paternity, using a prior probability of 0.5, were calculated for the following populations at the LOCI USED IN THE CALCULATION:”

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| <div> <p>: The reported value for the combined paternity index will be truncated to 2 significant figures.</p> <p>Refer to Appendix L for acceptable values for the Probability of Paternity. The Probability of Paternity percentage (%) will be carried out to 4 places after the decimal point.</p> </div> <div> <p>11.8.5 MISSING PERSON</p> </div> <div> <p>The loci that are used for calculating the missing person statistics need to be listed in the report. This can be done by listing the loci individually, stating “the PowerPlex® 16 BIO loci” or stating “the PowerPlex® 16 BIO loci with the exception of LOCUS/LOCI”. Missing person statistics will be reported in the following manner:</p> </div> <div> <p>11.8.5.1 BOTH PARENTS AVAILABLE FOR TESTING</p> </div> <div> <p>“Based on a review of the typing results for the EVIDENCE and MOTHER and FATHER previously analyzed at the PowerPlex® 16 BIO loci and addressed in the Certificate of Analysis dated_____:</p> </div> <div> <p>It is _____ times more likely to observe the DNA profile developed from the EVIDENCE at the LOCI USED IN THE CALCULATION if it were from a biological child of MOTHER and FATHER than if it were from a random couple of the Caucasian population.</p> </div> <div> <p>It is _____ times more likely to observe the DNA profile developed from the EVIDENCE at the LOCI USED IN THE CALCULATION if it were from a biological child of MOTHER and FATHER than if it were from a random couple of the Black population.</p> </div> <div> <p>It is _____ times more likely to observe the DNA profile developed from the EVIDENCE at the LOCI USED IN THE CALCULATION if it were from a biological child of MOTHER and FATHER than if it were from a random couple of the Hispanic population.”</p> </div> <div> <p>NOTE: If one report is issued containing the PowerPlex® 16 BIO typing results and the missing person statistics, the first sentence above will be replaced with the following: “Given the DNA typing results developed from the EVIDENCE and the reference samples from the MOTHER and FATHER:”</p> </div> <div> <p>The reported value for the likelihood ratio probability will be truncated to 2 significant figures.</p> </div> <div> <p>11.8.5.2 ONLY ONE PARENT/GRANDPARENT AVAILABLE FOR TESTING</p> </div> <div> <p>“Based on a review of the typing results for the EVIDENCE and the PARENT/GRANDPARENT previously analyzed at the PowerPlex® 16 BIO loci and addressed in the Certificate of Analysis dated_____, the following Combined</p> </div> | |

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| <p>Paternity/Maternity/Grandparent Index (CPI/CMI/CGI) and Probability of Paternity/Maternity/Grandparentage, using a prior probability of 0.5, were calculated for the following populations at the LOCI USED IN THE CALCULATION:</p> <table><tr><td>Caucasian</td><td>CPI* = _____</td><td>Probability of Paternity* = _____%</td></tr><tr><td>Black</td><td>CPI* = _____</td><td>Probability of Paternity* = _____%</td></tr><tr><td>Hispanic</td><td>CPI* = _____</td><td>Probability of Paternity* = _____%</td></tr></table> <p>*Replace with CMI or CGI as appropriate</p> <p>NOTE: The Probability of Paternity/Maternity/Grandparentage percentage (%) will be carried out to 4 places after the decimal point.</p> <p>“The Combined Paternity/Maternity/Grandparent Index is a likelihood ratio that expresses the odds that the PARENT/GRANDPARENT is the biological parent/grandparent (mother/father/grandparent) of the person whose DNA was found on the EVIDENCE SAMPLE(S) rather than another unrelated random man/woman. Therefore, the odds are _____ times more likely in the Caucasian population, _____ times more likely in the Black population, and _____ times more likely in the Hispanic population that these alleles would be observed if PARENT/GRANDPARENT is the biological parent/grandparent (mother/father/grandparent) of the person whose DNA was found on the EVIDENCE than another unrelated random man/woman.”</p> <p>NOTE: If one report is issued containing the PowerPlex® 16 BIO typing results and the missing person statistics, the first sentence above will be replaced with the following: “The following Combined Paternity/Maternity/Grandparent Index (CPI/CMI/CGI) and Probability of Paternity/Maternity/Grandparentage, using a prior probability of 0.5, were calculated for the following populations:”</p> <p>The reported value for the combined paternity/maternity/grandparent Index will be truncated to 2 significant figures.</p> <p style="text-align: right;">♦ END</p> | | Caucasian | CPI* = _____ | Probability of Paternity* = _____% | Black | CPI* = _____ | Probability of Paternity* = _____% | Hispanic | CPI* = _____ | Probability of Paternity* = _____% |
| Caucasian | CPI* = _____ | Probability of Paternity* = _____% | | | | | | | | |
| Black | CPI* = _____ | Probability of Paternity* = _____% | | | | | | | | |
| Hispanic | CPI* = _____ | Probability of Paternity* = _____% | | | | | | | | |